

REMARKS

Claims 1, 5 and 8 have been amended. Claims 1-11 are pending in the application. Claims 12-48 were previously cancelled. Applicants reserve the right to pursue the original claims and other claims in this and other applications.

Claim 8 stands objected to for informalities. Claim 8 has been amended to address the concerns raised in the Office Action. Applicants respectfully request that the objection of this claim be withdrawn.

Claim 5 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 5 has been amended to address the concerns raised in the Office Action. Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 1, 2, 6 and 9 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Aoki et al. (U.S. Patent No. 5,479,049). The rejection is traversed and reconsideration is respectfully requested.

Claim 1 recites a micro-lens for use in an imager, comprising "a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface; an opening in the substrate recessed from the upper surface of the substrate; and lens material located within the opening of the substrate, said opening serving as a mold for the lens material."

The Office Action asserts that Aoki's FIG. 1, up side-down, discloses a substrate 12 having an opening recessed from an upper surface of the substrate. (Office Action at page 3). Claim 1, however, recites "an opening in the substrate recessed from the upper surface of the substrate." In the claimed invention, the upper surface of the substrate is opposite the bottom surface of the substrate; and the bottom surface is facing towards a pixel cell.

Aoki's FIG. 1, even up side-down, does not disclose or suggest the previously discussed limitations. Instead, Aoki discloses an opening in a substrate 12 recessed from the bottom surface of the substrate 12; and the bottom surface is facing towards pixel cells. (Aoki, FIG. 1). Applicants, therefore, submit that Aoki fails to disclose, teach or suggest the invention of claim 1. Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Claims 2 and 6 depend from claim 1 and are allowable for at least the same reasons. Claim 9 depends from claim 8. Claim 8 recites a micro-lens, comprising "a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface; [and] an opening in the substrate recessed from the upper surface of the substrate." As set forth above, Aoki fails to disclose, teach or suggest these limitations. Therefore, Aoki does not disclose the invention of claim 9. Applicants respectfully request the withdrawal of the rejection and allowance of claims 1, 2, 6, and 9.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Aoki in view of Nishihara (U.S. Patent No. 5,764,319). The rejection is traversed and reconsideration is respectfully requested.

Claim 3 depends from claim 1. As discussed above, Aoki fails to disclose, teach, or suggest every limitation of claim 1. Applicants respectfully submit that Nishihara does not cure the deficiencies of Aoki. Nishihara relates to a small-sized high-resolution transmissive display device employed in a color-filterless single panel projector. (Nishihara, col. 2, lines 33-37). Applicants respectfully submit that Nishihara does not disclose, teach, or suggest "a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface; [and] an opening in the substrate recessed from the upper

surface of the substrate” as recited by claim 1. As such, Applicants respectfully submit that the Aoki and Nishihara combination fails to teach or suggest every limitation of claim 3. Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Aoki in view of Kravitz (U.S. Patent No. 5,790,730). The rejection is traversed and reconsideration is respectfully requested.

Claim 4 depends from claim 1. As discussed above, Aoki fails to disclose, teach, or suggest every limitation of claim 1. That is, Aoki fails to disclose “a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface; [and] an opening in the substrate recessed from the upper surface of the substrate,” as recited by claim 1. Applicants submit that Kravitz does not disclose, teach or suggest this limitation either. Kravitz, by contrast discloses a package comprising a first wall having a plurality of micro-lenses formed therein to establish channels of optical communication with an integrated optic circuit within the package. (Kravitz, Abstract). Applicants respectfully submit that the Aoki and Kravitz combination fails to teach or suggest every limitation of claim 4. Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Aoki. The rejection is traversed and reconsideration is respectfully requested.

Claim 7 depends from claim 1. As discussed above, Aoki fails to disclose, teach, or suggest “a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface;

[and] an opening in the substrate recessed from the upper surface of the substrate,” as recited by claim 1. Applicants respectfully submit that Aoki alone cannot render claim 7 unpatentable. As such, Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Claims 8, 10 and 11 stand rejected under 35 U.S.C. § 103(a)¹ as being unpatentable by Aoki in view of Kravitz and further in view of Nishihara. The rejection is traversed and reconsideration is respectfully requested.

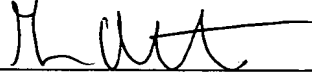
Claim 8 contains similar limitations as claim 1. As previously discussed, Aoki, Kravitz, and Nishihara fail to disclose, teach, or suggest every limitation of claim 1. That is, claim 8 recites a micro-lens, comprising “a substrate positioned over a pixel cell, the substrate having a bottom surface facing towards the pixel cell and an upper surface opposite the bottom surface; [and] an opening in the substrate recessed from the upper surface of the substrate.” As such, Applicants respectfully submit that the Aoki, Kravitz, and Nishihara combination can not render claim 8 unpatentable. Claims 10 and 11 depend from claim 8 and are allowable for at least the same reasons. Applicants respectfully request that the rejection of the claims be withdrawn and the claims allowed.

¹ The Office Action lists this as a rejection under 35 U.S.C. 102(b). Applicants presume, however, that since the rejection is based on a combination of three references, the rejection should be a 35 U.S.C. 103(a) rejection.

In view of the above, Applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

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